ORDER NO. ARD81040044C2-13

Service Manual

Cassette Deck

RS-M07

(Silver Face)

Concise Metal Tape-Compatible Cassette Deck
with FL Meters and Automatic Tape Select

DOLBY SYSTEM

This is the Service Manual for the following areas.
[D] ····· For all European areas except United Kingdom.
[B] ····· For United Kingdom.

RS-M24 MECHANISM SERIES

Specifications

Track system:	4-track 2-channel stereo recording and playback
Tape speed:	4.8 cm/s
Wow and flutter:	0.048% (WRMS), ±0.14% (DIN)
Frequency response:	Metal tape; 20—18,000 Hz 30—17,000 Hz (DIN)
	CrO_2 tape; 20—18,000 Hz 30—16,000 Hz (DIN)
	Normal tape; 20—17,000 Hz 30—15,000 Hz (DIN)
Signal-to-noise ratio:	Dolby* NR in; 67 dB (above 5 kHz) Dolby NR out; 57 dB (signal level = max. recording level, CrO_2 type tape)
Fast forward and rewind time:	Approx. 90 seconds with C-60 cassette tape
Inputs:	MIC; sensitivity 0.25 mV, input impedance 10 kΩ applicable microphone impedance 400Ω—10 kΩ LINE; sensitivity 60 mV, input impedance 43 kΩ
Outputs:	LINE; output level 400 mV, output impedance 1.5 kΩ or less load impedance 22 kΩ over HEADPHONES; output level 80 mV, load impedance 8Ω
Bias frequency:	80 kHz
Motor:	Electrical DC governor motor
Heads:	2-head system; 1-MX head for record/playback 1-ferrite double-gap head for erasure
Power requirements:	AC; 110/220 V, 50-60 Hz, AC 240 V only for United Kingdom.
Power consumption:	15 W
Dimensions:	29.7 cm(W) × 12.3 cm(H) × 23.0 cm(D)
Weight:	4.0 kg

Specifications are subject to change without notice.

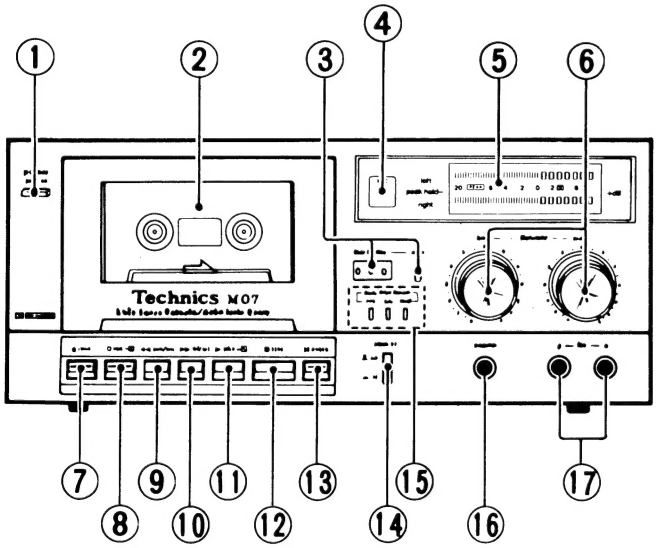
* 'Dolby' and the double-D symbol are trademarks of Dolby Laboratories.

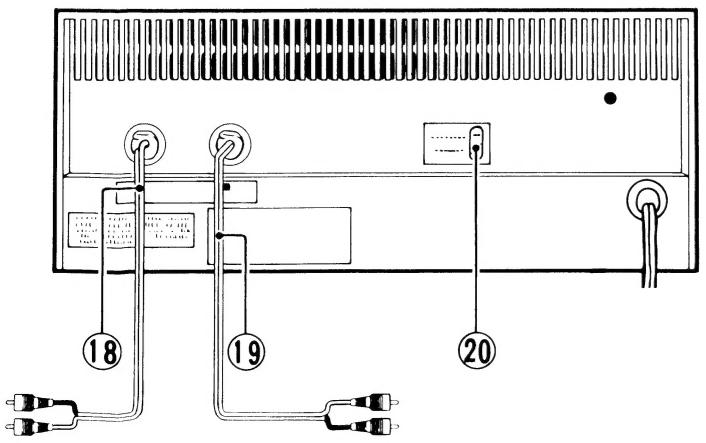
Technics

Matsushita Electric Trading Co., Ltd.
P.O. Box 288, Central Osaka Japan

CONTENTS

LOCATION OF CONTROLS AND COMPONENTS





① Power switch [power (push on)]
② Cassette holder
③ Tape counter and Reset button (tape counter—reset)
④ Recording indicator (rec)
⑤ Fluorescent level meters
⑥ Input level controls [input level (left·right)]
⑦ Eject button (▲ eject)
⑧ Record button (○ rec—◹)
⑨ Rewind/Review button (◀◀ rew/rev)
⑩ Fast forward/Cue button (▶▶ ff/cue)
⑪ Play button (▶ play—◹)
⑫ Stop button (■ stop)
⑬ Pause button (❚❚ pause)
⑭ Dolby noise-reduction switch [Dolby NR (out·in)]
⑮ Auto tape selector indicators
[Auto Tape Select (nor·CrO_2·Metal)]
⑯ Headphones jack (phones)
⑰ Microphone jacks [mic (L·R)]
⑱ Line output cord (LINE OUT)
⑲ Line input cord (LINE IN)
⑳ Voltage selector (VOLTAGE SELECTOR)
※ For all European areas except United Kingdom.

DISASSEMBLY INSTRUCTIONS

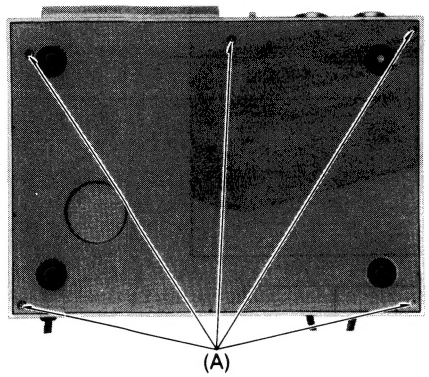


Fig. 1

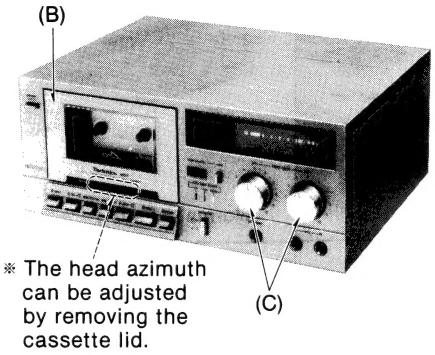


Fig. 2

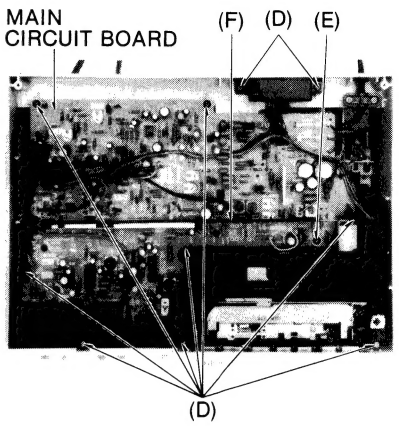


Fig. 3

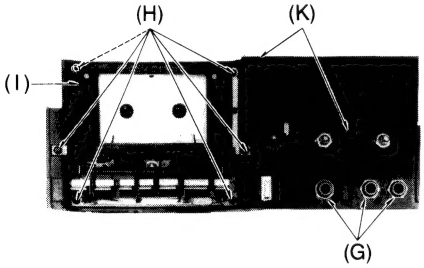


Fig. 4

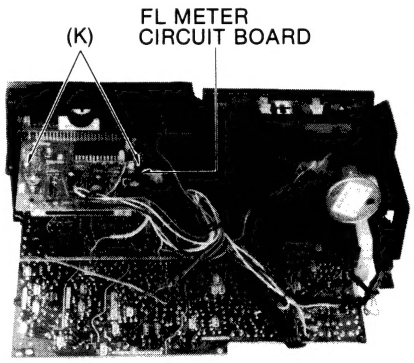


Fig. 5

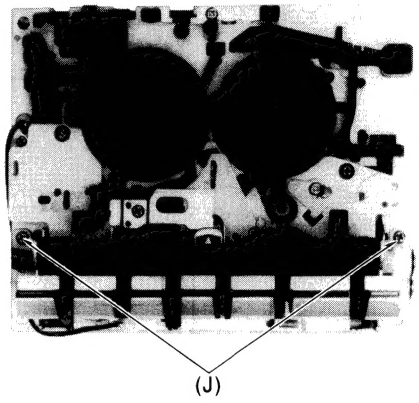
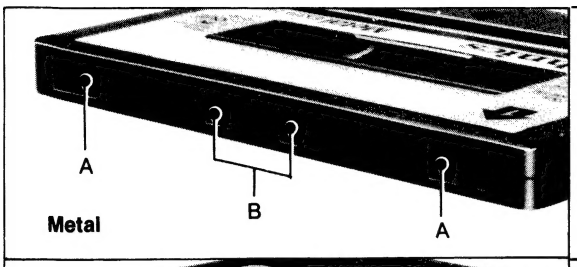


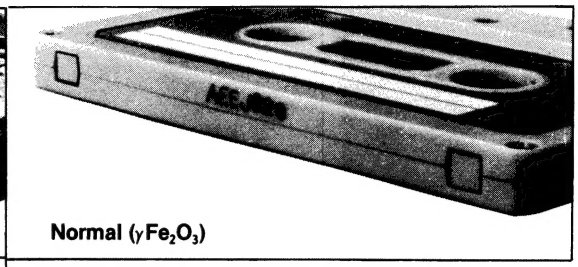
Fig. 6

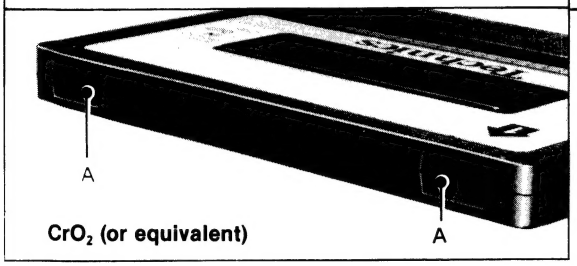
Ref. No.	Procedure	To remove ——	Remove ——	Shown in fig. ——
1	1	Bottom cover	• 5 screws ····· (A)	1
2	1 → 2	Main circuit board and mechanism unit	• Cassette lid ····· (B) • 2 control knobs ····· (C) • 10 screws ····· (D)	2 2 3
3	1 → 2 → 3	Main circuit board	• Screw ····· (E) • Record wire ····· (F) • 3 nuts ····· (G)	3 3 4
4	1 → 2 → 4	Mechanism unit	• 6 screws ····· (H)	4
5	1 → 2 → 4 → 5	Operation button unit	• Cassette holder ····· (I) • 2 screws ····· (J)	4 6
6	1 → 2 → 6	FL meter circuit board	• 4 screws ····· (K)	4, 5

AUTO TAPE SELECTOR FUNCTION

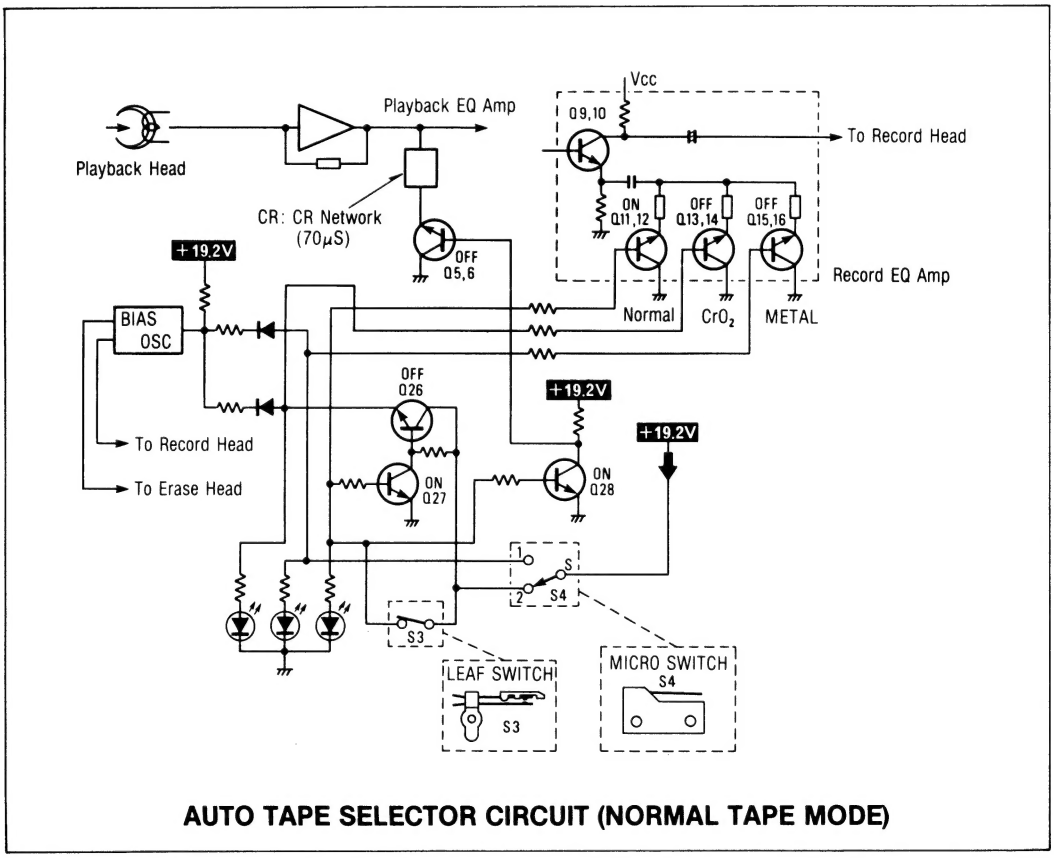
RS-M07 is equipped with an auto-tape selector system that detects these identification recesses and automatically selects the correct bias and equalization for normal, CrO_2 and metal tape varieties. Thus, the novice user can obtain the correct tape selector setting automatically to ensure proper recording and playback results.



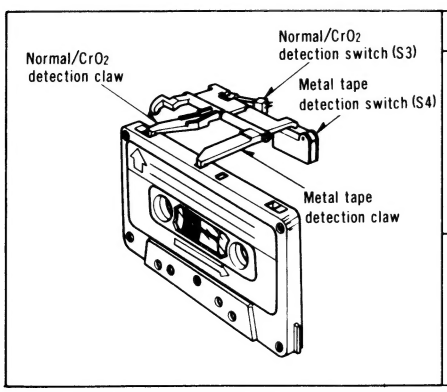




Type \ Recess	A	B
Metal	YES	YES
CrO_2	YES	NO
Normal	NO	NO



AUTO TAPE SELECTOR CIRCUIT (NORMAL TAPE MODE)



S4	S3	Mode
		Normal tape mode
		CrO_2 tape mode
		Metal tape mode

MEASUREMENT AND ADJUSTMENT METHODS

NOTE:

Tape speed can be adjusted through the small hole on the back-side of main case by the ⊖ screw driver (non metal type) as shown in the diagram below.

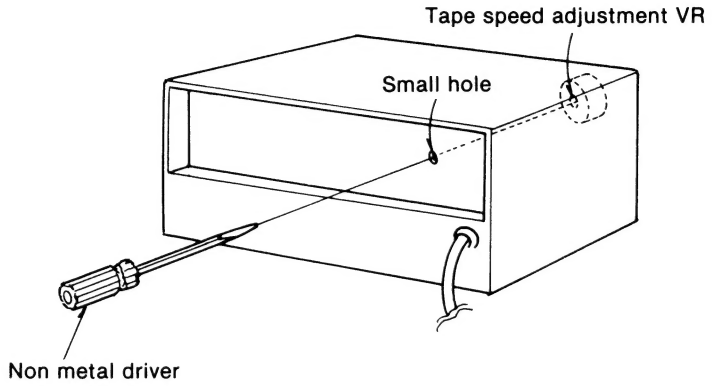
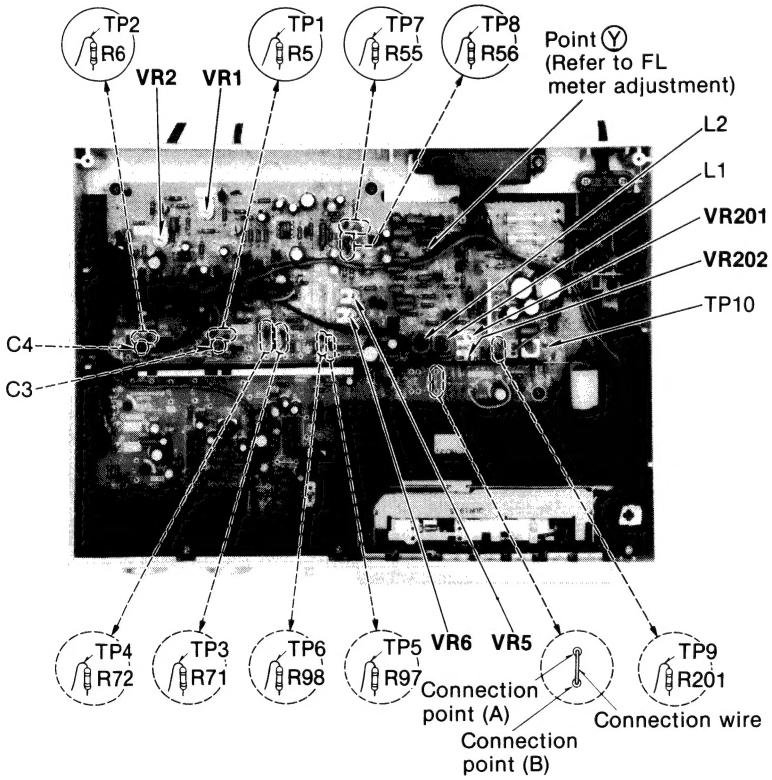


Fig. 1

ADJUSTMENT PARTS LOCATION



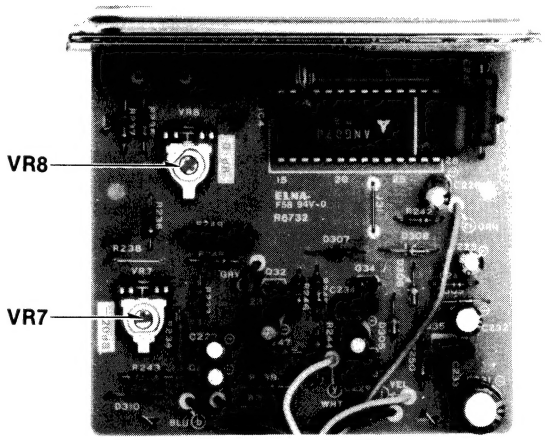
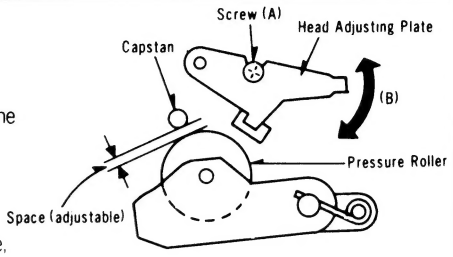
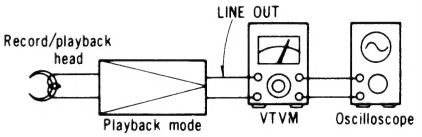
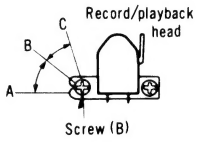
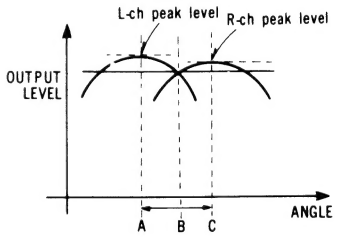
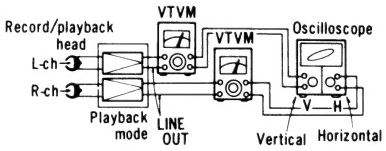
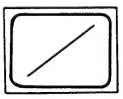
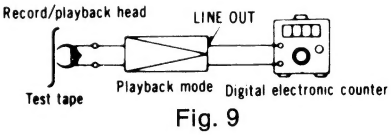
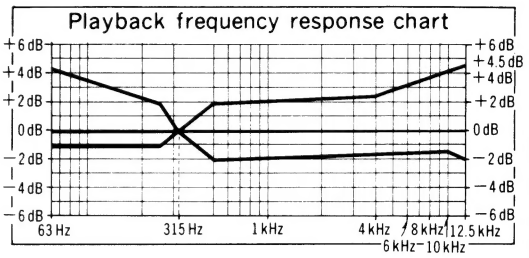
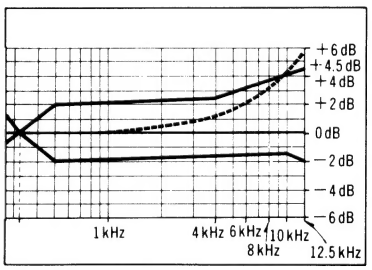
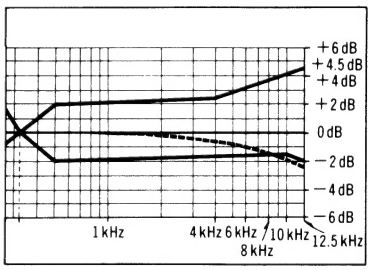


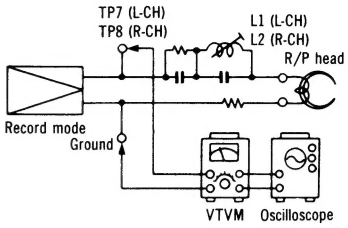
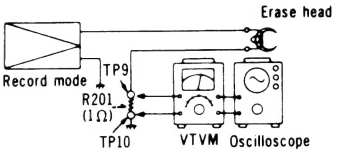
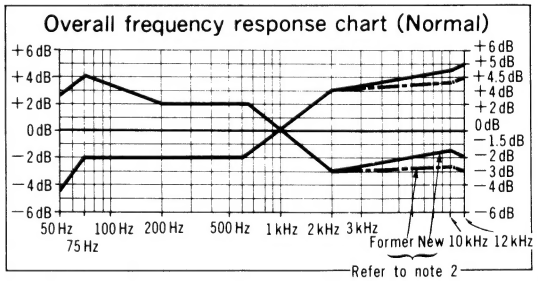
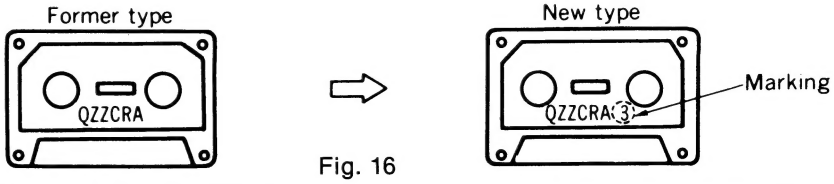
Fig. 2

NOTES: Keep good condition, set switches and controls in the following positions, unless otherwise specified.

- Make sure heads are clean.
- Make sure capstan and pressure roller are clean.
- Judgeable room temperature: 20 ± 5°C (68 ± 9°F)
- Dolby NR switch: OUT
- Input level controls: Maximum

ITEM	MEASUREMENT & ADJUSTMENT
Ⓐ Head position adjustment Condition: * Playback and pause mode	(The head adjusting plate is provided to adjust the tape touch of the head in cue or review mode.) 1. Press the playback button and pause button. 2. Measure the space between the pressure roller and the capstan. **Standard value: 0.5 ± 0.3 mm** 3. If the measured value is not within the standard value, untighten screw (A), and slide the head adjusting plate in the direction of arrow (B) for adjustment.  Fig. 3
Ⓑ Head azimuth adjustment Condition: * Playback mode * Normal tape mode Equipment: * VTVM * Oscilloscope * Test tape (azimuth) ··· QZZCFM	**L-ch/R-ch output balance adjustment** 1. Make connections as shown in fig. 4.  Fig. 4 2. Playback the 8kHz signal from the test tape (QZZCFM). Adjust screw (B) in fig. 5 for maximum output L-ch and R-ch levels. When the output levels of L-ch and R-ch are not at maximum at the same time, readjust as follows. 3. Turn the screw shown in fig. 5 to find angles A and C (points where peak output levels for left and right channels are obtained). Then, locate the angle B between angles A and C, i.e., a point where L-ch and R-ch output levels come together at maximum. (Refer to figs. 5 and 6.)  Fig. 5  Fig. 6 **L-ch/R-ch phase adjustment** 4. Make connections as shown in fig. 7. 5. Playback the 8kHz signal from the test tape (QZZCFM). Adjust screw (B) shown in fig. 5 so that pointers of the two VTVMs swing to maximum and a waveform as illustrated in fig. 8 is obtained on the oscilloscope.  Fig. 7  Fig. 8
Ⓒ Tape speed Condition: * Playback mode * Normal tape mode Equipment: * Digital electronic counter or frequency counter * Test tape ··· QZZCWAT	**Tape speed accuracy** 1. Test equipment connection is shown in fig. 9. 2. Playback test tape (QZZCWAT 3,000Hz), and supply playback signal to frequency counter. 3. Take measurement at middle section of tape. 4. Measure this frequency. 5. On the basis of 3,000Hz, determine value by following formula:  Fig. 9 $\text{Tape speed accuracy} = \frac{f - 3{,}000}{3{,}000} \times 100\,(\%)$ where, f = measured value **Standard value: ± 1.5%** **Adjustment method** 1. Playback the test tape (middle). 2. Adjust so that frequency becomes 3,000Hz. 3. Tape speed adjustment VR shown in fig. 1.

ITEM	MEASUREMENT & ADJUSTMENT
	Tape speed fluctuation Make measurements in same manner as above (beginning, middle and end of tape), and determine the difference between maximum and minimum values and calculate as follows: $\text{Tape speed fluctuation} = \frac{f_1 - f_2}{3{,}000} \times 100\,(\%)$ f_1 = maximum value, f_2 = minimum value **Standard value: Less than 1%** **Note:** Please use non metal type screwdriver when you adjust tape speed accuracy on this unit.
Ⓓ Playback frequency response Condition: * Playback mode * Normal tape mode Equipment: * VTVM * Oscilloscope * Test tape ··· QZZCFM	1. Test equipment connection is shown in fig. 4. 2. Place UNIT into Normal tape mode. 3. Playback the frequency response test tape (QZZCFM). 4. Measure output level at 315Hz, 12.5kHz, 8kHz, 4kHz, 1kHz, 250Hz, 125Hz and 63Hz, and compare each output level with the standard frequency 315Hz, at LINE OUT. 5. Make measurement for both channels. 6. Make sure that the measured value is within the range specified in the frequency response chart (shown in fig. 10).  Fig. 10 **Adjustment** 1. If the measurement value increases in the high frequency range, as shown in fig. 11, remove capacitor C3 (L-CH) and C4 (R-CH) (Refer to fig. 2). **Compensation value** 6kHz: −0.2dB; 8kHz: −0.4dB; 10kHz: −0.8dB; 12.5kHz: −1.2dB  Fig. 11 2. If the measurement value decreases in the high frequency range, as shown in fig. 12, insert and solder capacitors C3 (L-CH) and C4 (R-CH). **Compensation value** 6kHz: +0.2dB; 8kHz: +0.4dB; 10kHz: +0.8dB; 12.5kHz: +1.2dB **Capacitors** C3, C4: ECKD1H271KB  Fig. 12
Ⓔ Playback gain Condition: * Playback mode * Normal tape mode Equipment: * VTVM * Oscilloscope * Test tape ··· QZZCFM	1. Test equipment connection is shown in fig. 4. 2. Playback standard recording level portion on test tape (QZZCFM 315Hz), and using VTVM measure the output level at LINE OUT. 3. Make measurement for both channels. **Standard value: 0.4V ± 2dB [around 0.42V: at test points TP5 (L-CH) and TP6 (R-CH)]** **Adjustment** 1. If measured value is not within standard, adjust VR1 (L-CH), VR2 (R-CH) (See fig. 2 on page 4). 2. After adjustment, check "Playback frequency response" again.

ITEM	MEASUREMENT & ADJUSTMENT
Ⓕ Bias leakage Condition: * Record mode * Metal tape mode Equipment: * VTVM * Oscilloscope	1. Test equipment connection is shown in fig. 13. 2. Place UNIT into record mode. 3. Adjust trap coil L1 (L-CH), L2 (R-CH) so that measured value on VTVM becomes minimum. 4. Take adjustment for both channels.  Fig. 13
Ⓖ Erase current Condition: * Record mode * Metal tape mode Equipment: * VTVM * Oscilloscope	1. Test equipment connection is shown in fig. 14. 2. Place UNIT into Metal tape mode. 3. Press the record and pause buttons. 4. Read voltage on VTVM and calculate erase current by following formula: $\text{Erase current (A)} = \frac{\text{Voltage across both ends of R201}}{1\,(\Omega)}$  Fig. 14 **Standard value: 155 ± 15 mA (Metal position)** 5. If measured value is not within standard, adjust as follows. **Adjustment** 1. Open the point (A) and short the point (B) on the main circuit board in the adjustment parts location (See fig. 2). 2. Make measurement for erase current. 3. Make sure that the measured value is within the erase current of 140 mA to 170 mA. 4. If it is beyond the value, carry out the following adjustments: • If the erase current is less than 140 mA, short the point (A) and (B). • If the erase current is more than 170 mA, open the points (A) and (B).
Ⓗ Overall frequency response Condition: * Record/playback mode * Normal tape mode * CrO_2 tape mode * Metal tape mode * Input level controls ··· MAX Equipment: * VTVM * AF oscillator * ATT * Oscilloscope * Resistor (600 Ω) * Test tape (reference blank tape) ··· QZZCRA for Normal ··· QZZCRX for CrO_2 ··· QZZCRZ for Metal	**Note 1:** Before measuring and adjusting, make sure of the playback frequency response (For the method of measurement, please refer to the playback frequency response). **Note 2:** Test tape QZZCRA to be supplied after July 1980 has higher recording sensitivity in the middle and high frequency range.  Fig. 15 * This chart indicates the standard values for the new type of QZZCRA when in use. * This chart indicates the standard values for the former type of QZZCRA when in use. The new type of QZZCRA is marked as shown in fig. 16.  Fig. 16

ITEM	MEASUREMENT & ADJUSTMENT

Overall frequency response adjustment by recording bias current
(Recording equalizer is fixed.)

1. Make connections as shown in fig. 17.
2. Place the UNIT into Normal tape mode and load the test tape (QZZCRA).
3. Input a 1 kHz, −24 dB signal through LINE IN. Place the set in record mode.
4. Fine adjust the attenuator to obtain 0.4 V LINE OUT output.
   • Make sure that the input signal level is −24 ± 4 dB with 0.4 V output voltage.

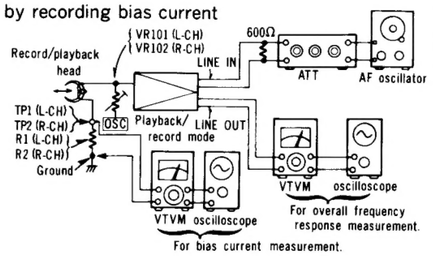


Fig. 17

5. Adjust the attenuator to reduce the input signal level by 20 dB.
6. Adjust the AF oscillator to generate 50 Hz, 100 Hz, 200 Hz, 500 Hz, 1 kHz, 4 kHz, 8 kHz, 10 kHz and 12 kHz signals, and record these signals on the test tape.
7. Playback the signals recorded in step 6, and check if the frequency response curve is within the limits shown in the overall frequency response chart for normal tapes (fig. 15).
   (If the curve is within the charted specifications, proceed to steps 8, 9 and 10.)
   If the curve is not within the charted specifications, adjust as follows;

Adjustment Ⓐ:
When the curve exceeds the overall frequency response chart specifications (fig. 15) as shown in fig. 18.

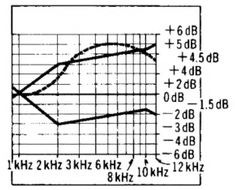


Fig. 18

1) Increase bias current by turning VR201 (L-CH) and VR202 (R-CH).
   (See fig. 2 on page 4.)
2) Repeat steps 6 and 7 to confirm.
   (Proceed to steps 8, 9 and 10 if the curve is now within the charted specifications in fig. 15.)
3) If the curve still exceeds the specifications (fig. 15), increase bias current further and repeat steps 6 and 7.

Adjustment Ⓑ:
When the curve falls below the overall frequency response chart specifications (fig. 15) as shown in fig. 19.

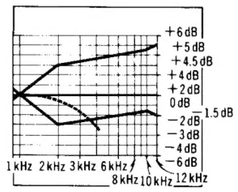


Fig. 19

1) Reduce bias current by turning VR201 (L-CH) and VR202 (R-CH).
2) Repeat steps 6 and 7 to confirm.
   (Proceed to steps 8, 9 and 10 if the curve is now within the charted specifications in fig. 15.)
3) If the curve still falls below the charted specifications (fig. 15) reduce bias current further and repeat steps 6 and 7.

8. Place the UNIT into CrO_2 tape mode change test tape to QZZCRX, and record 50 Hz, 100 Hz, 200 Hz, 500 Hz, 1 kHz, 4 kHz, 8 kHz, 10 kHz, 14 kHz and 12.5 kHz signals. Then, playback the signals and check if the curve is within the limits shown in the overall frequency response chart for CrO_2 tapes (fig. 20).

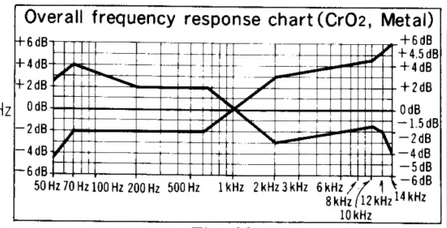


Fig. 20

9. Place the UNIT into Metal tape mode change test tape to QZZCRZ, and record 50 Hz, 100 Hz, 200 Hz, 500 Hz, 1 kHz, 4 kHz, 8 kHz, 10 kHz, 12 kHz and 14 kHz signals. Then, playback the signals and check if the curve is within the limits shown in the overall frequency response chart for metal tapes (fig. 20).

ITEM	MEASUREMENT & ADJUSTMENT

10. Confirm that bias currents are approximately as follows when the UNIT is set at different tape mode.
    • Read voltage on VTVM and calculate bias current by following formula:

$$\text{Bias current (A)} = \frac{\text{Value read on VTVM (V)}}{10\ (\Omega)}$$

around 400μA (Normal position)
around 600μA (CrO_2 position)
around 1000μA (Metal position)
} : measured at TP1 (L-CH) and TP2 (R-CH)

❶ Overall gain

Condition:
- Record/playback mode
- Input level controls ··· MAX
- Standard input level;
  MIC ·····: −72 ± 3.5 dB
  LINE IN ··· −24 ± 3.5 dB
- Normal tape mode

Equipment:
- VTVM • AF oscillator
- ATT • Oscilloscope
- Resistor (600 Ω)
- Test tape (reference blank tape) ···QZZCRA for Normal

1. Test equipment connection is shown in fig. 21.
2. Place the UNIT into Normal tape mode and load the test tape (QZZCRA).
3. Place UNIT into record mode.
4. Supply 1 kHz signal (−24 dB) from AF oscillator, through ATT to LINE IN.
5. Adjust ATT until monitor level at LINE OUT becomes 0.4 V.
6. Playback recorded tape, and make sure the value at LINE OUT on VTVM becomes 0.4 V.
7. If measured value is not 0.4 V, adjust VR5 (L-CH), VR6 (R-CH) (See fig. 2 on page 4).
8. Repeat from step (2)..

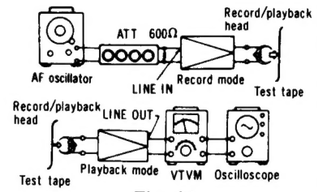


Fig. 21

❷ Fluorescent meter

Condition:
- Record mode
- Input level controls ···· MAX
- Output level control ··· MAX
- Tape selector ··· Normal position

Equipment:
- VTVM • AF oscillator
- ATT • Oscilloscope
- Resistor (600Ω)

1. Test equipment connection is shown in fig. 21.
2. As shown in fig. 22, connecting the base of Q33 and ground stops the oscillation of the astable multivibrator comprising Q33 and Q34.
3. Supply 1 kHz signal (−24 dB) to the LINE IN jack, then press the record button.
4. Adjust the ATT so that the output level at LINE OUT jack becomes 0.4 V (The input level at this condition is termed the standard input level).
5. Adjustment at "−20 dB":
   A. Adjust the ATT so that input level is −20 dB below standard recording level.
   B. Adjust VR7 so that the −20 dB segment lights up in the −20 ± 0.8 dB range (L-CH ONLY) (See fig. 23).
6. Adjustment at "0 dB":
   A. Adjust the ATT so that the output level at LINE OUT jack becomes 0.4 V.
   (The input level at this condition is termed the standard input level.)
   B. Adjust VR8 so that the +1 dB segment lights up in the 0 ± 0.2 dB range of the standard input level (See fig. 24).
7. Repeat twice between steps 5 and 6 above.
8. Adjust ATT and check that all segments light up when an input signal level is increased to 10 dB higher than the standard input level (See fig. 25).

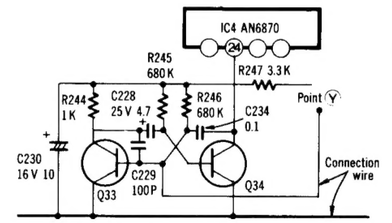


Fig. 22

Fig. 23

Fig. 24

Fig. 25

❸ Dolby NR circuit

Condition:
- Record mode
- Dolby NR switch ··· IN/OUT
- Input level controls ··· MAX

Equipment:
- VTVM • AF oscillator
- ATT • Oscilloscope
- Resistor (600 Ω)

1. Test equipment connection is shown in fig. 26.
2. Place UNIT into record mode, set the Dolby NR switch to OUT position and supply to LINE IN to obtain −34.5 dB at TP5 (L-CH), TP6 (R-CH) (frequency 5 kHz).
3. Confirm that the value at IN position is 8 (± 2.5) dB greater than the value at OUT position of Dolby NR switch.

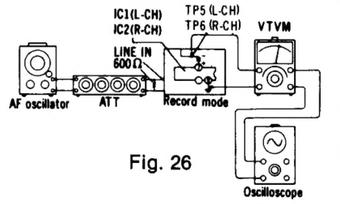
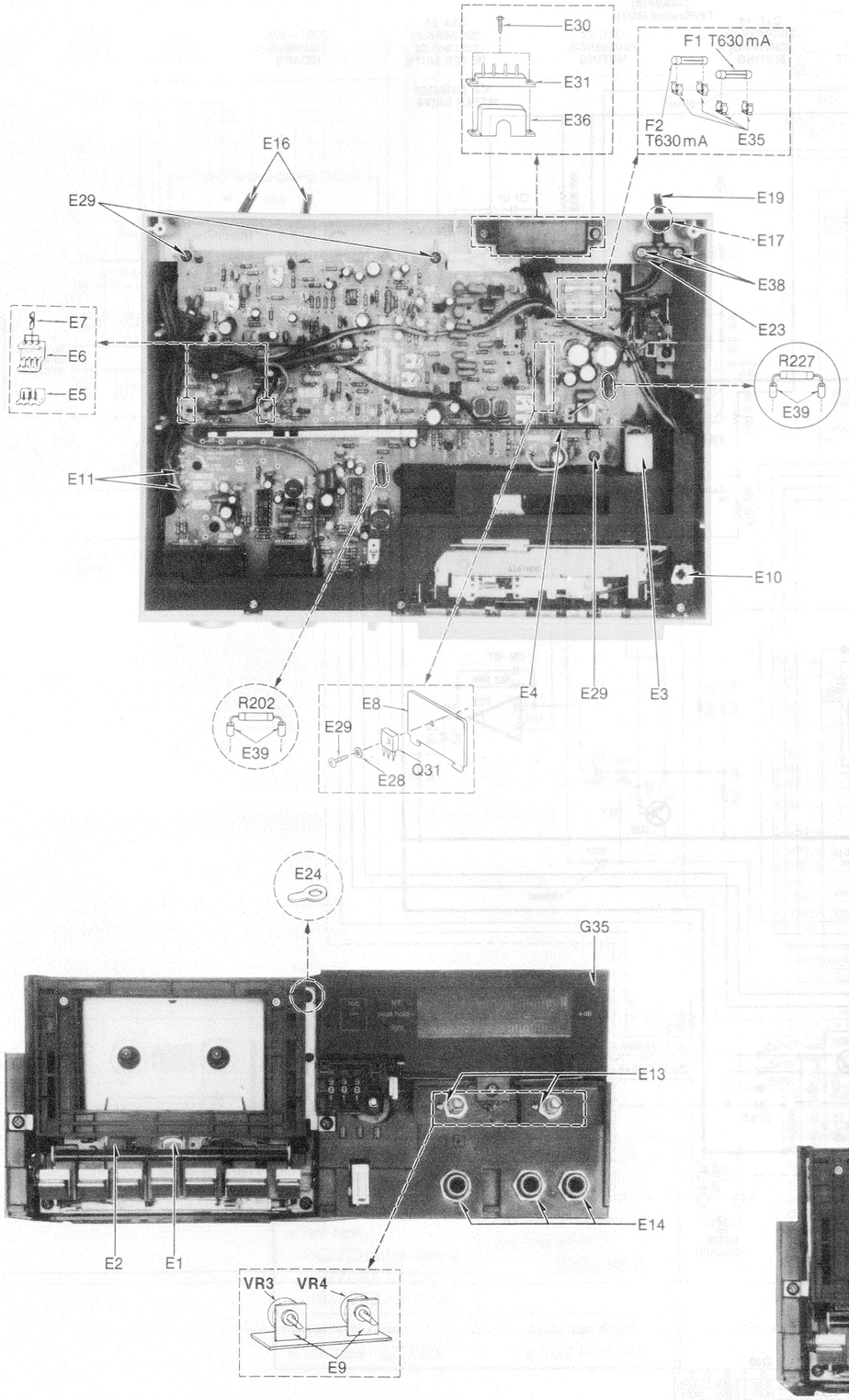
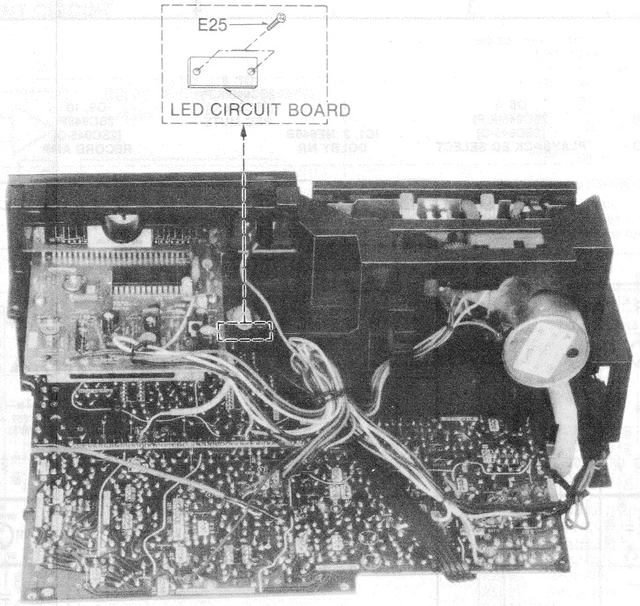
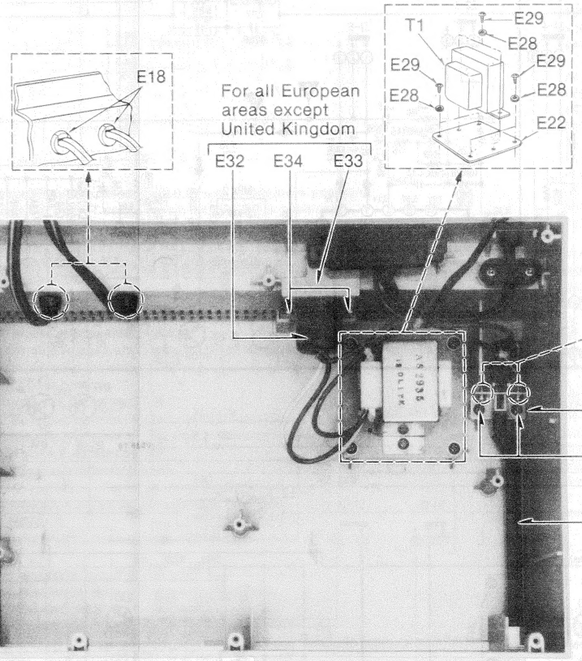


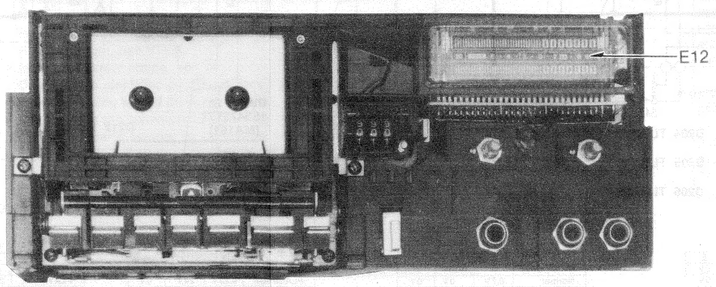
Fig. 26

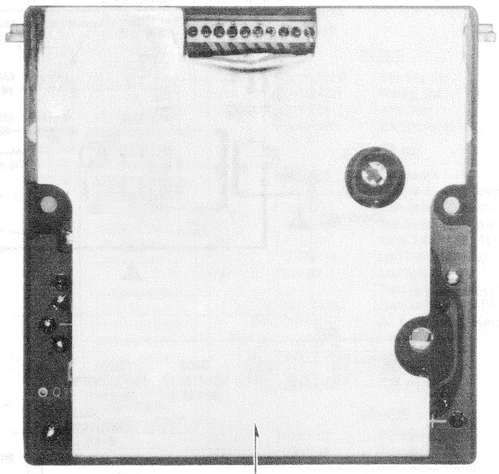
ELECTRICAL PARTS LOCATION











REPLACEMENT PARTS LIST

Important safety notice
Components identified by ⚠ mark have special characteristics important for safety.
When replacing any of these components, use only manufacturer's specified parts.

Ref. No.	Part No.	Part Name & Description
		ELECTRICAL PARTS
E1	QWY4122Z	Record/Playback Head
E2	QWY2138Z	Erase Head
E3	QMLM0041	Recording Lever
E4	QBSM0007	Recording Wire
E5	QJP1921TN	3 Pin Post
E6	QJS1921TN	3 Pin Socket
E7	QJT1054	Contact
E8	QTHM0011	Heat Sink
E9	QTSM0044	Shield Plate-A
E10	QTSM0045	Shield Plate-B
E11	QJT0053	Check Pin
E12	QSiFL001F	FL Meter
E13	XNS8	Nut (for Input VR)
E14	QNQ1070	Jack Nut
E16	QFC2135	Pin Cord
E17	QBJ1425	Cord Bushing
E18	QTD1295	〃
E19 ⚠	SJA88	AC Power Cord
	※For all European areas except United Kingdom.	
⚠	QFC1205M	〃
	※For United Kingdom.	
E20	QKJM0046	Switch Button Rod (for Power Button)
E21	QMAM0123	Switch Angle (for S7)
E22	QMFM0016	Transformer Holding Plate
E23	QTD1164	Cord Clamper
E24	QTD1001	Lug Terminal
E25	XTN3+8B	Tapping Screw ⊕3×8
E26	XSN3+6S	Screw ⊕3×6
E27	XWA3B	Washer 3φ
E28	XWG3	〃
E29	XTN3+10B	Tapping Screw ⊕3×10
E30	XTN3+16B	Screw ⊕3×16
E31	QJT4017	4 Pin Terminal
E32 ⚠	QTWM0026	Switch Cover
	※For all European areas except United Kingdom.	
E33 ⚠	QMAM0139	Switch Angle (for S8)
	※For all European areas except United Kingdom.	
E34 ⚠	XTB3+8BFN	Screw ⊕3×8 (for S8)
	※For all European areas except United Kingdom.	
E35 ⚠	QTF1054	Fuse Holder
E36	QTWM0032	Terminal Cover
E37	QTSM0055	Shield Plate
E38	XTB3+12BFN	Screw ⊕3×12
E39	QZE0003	Porcelain Tube

SCHEMATIC DIAGRAM

MAIN CIRCUIT SECTION

Q1—4 2SC1327(S,T,U) [2SC1328-S] PLAYBACK EQ

Q5, 6 2SC945(K,P) [2SC945-Q] PLAYBACK EQ SELECT

IC1, 2 NE646B DOLBY NR

Q7, 8 2SC945(K,P) [2SC945-Q] REC MUTE

Q9, 10 2SC945P [2SC945-Q] RECORD AMP

Q11—16 2SC945(P,K) [2SC945-Q] RECORD EQ SELECT

Q17, 18 2SC945(P,K) [2SC945-Q] MUTING

Q19 2SA999(E,F) [2SA999E] FF/Rewind MUTE

Q21, 22 2SD592NCS MUTING

Q23, 24 2SC945(K,P) [2SC945-Q] METER MUTE

D301—304 OA90MLF [2OA90]

IC3 NJM4556 METER DRIVE

LINE IN

Lch

Rch

MIC

Lch J1

Rch J2

RECORD/PLAYBACK HEAD

(QWY4122Z)

ERASE HEAD

(QWY2138Z)

+B(bias)

HEADPHONES

J3

To FL METER SECTION

LINE OUT

Connect point (A) Connection point (B)

AC IN

* FOR All EUROPEAN AREAS EXCEPT UNITED KINGDOM

* FOR UNITED KINGDOM

MOTOR (QXU0170)

Q25	B	C	E
Normal	0.41V	4.9V	0.18V
CrO_2	0.35V	7.2V	0.26V
Metal	0.14V	13.0V	0.5V

D202 1S2473T77 [MA161]

D201 1SR35200FV [MA161]

Q25 2SD592NCS BIAS OSC

D204 TLG205

D205 TLY205

D206 TLR205

Q26, 27 2SC945(P,K) [2SC945-Q] BIAS EQ SELECT

D207 TLR205

Q28 2SC945(K,P) [2SC945-Q] LED DRIVE

Q29 2SC945(K,P) [2SC945-Q] MUTING

D208—211 1S2473T77 [MA161]

Q30 2SA999(E,F) [2SA999E] MUTING

D212 RD2OEB3

Q31 2SD794 [2SD794P] REGULATOR

Q26	B	C	E
Normal	0V	19.2V	0.1V
CrO_2	19.2V	19.2V	18.6V

Q27	B	C	E
Normal	0.7V	0V	0V
CrO_2	0V	19.2V	0V

Q28	B	C	E
Metal, CrO_2	0V	0.66V	0V
Normal	0.7V	0V	0V

Q29	B	C	E
STOP	0.6V	0V	0V
PLAYBACK	0.25V	24V	0V

Q30	B	C	E
STOP	2.3V	2.95V	3.0V
PLAYBACK	24.0V	0.06V	24.0V

FL METER SECTION

D305, 306, 308 1S2473LF [MA161]

D307, 310 MV121LF [MV121]

Q32

D305

D307

D310

D308

D306

Q33

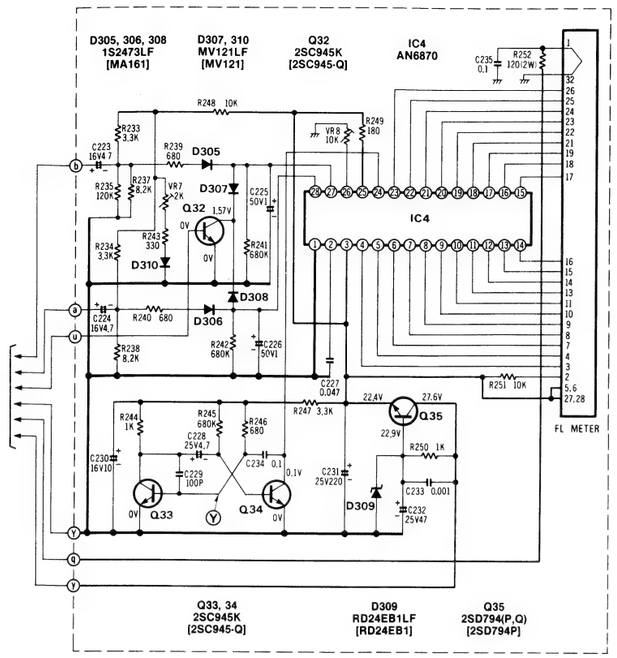
Q34

To MAIN CIRCUIT SECTION

Q33, 34 2SC945K [2SC945-Q]

9 10 11

FL METER SECTION



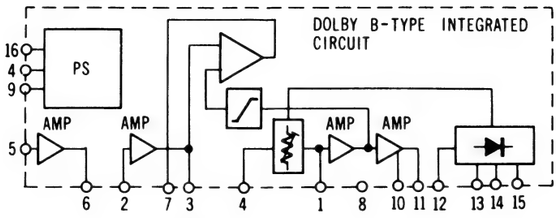
SPECIFICATIONS

* Input level controls ····· MAX

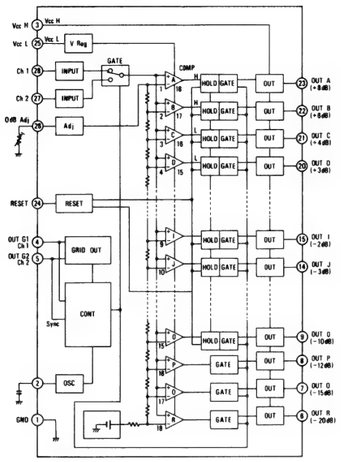
Playback S/N ratio * Test tape···QZZCFM	More than 45dB (without NAB filter)
Overall distortion * Test tape ···QZZCRA for Normal ···QZZCRX for CrO_2 ···QZZCRZ for Metal	Less than 3%(Normal) Less than 3.5% (CrO_2, Metal)
Overall S/N radio * Test tape···QZZCRX	More than 46dB (without NAB filter)

EQUIVALENT CIRCUIT

IC1, 2 NE646B

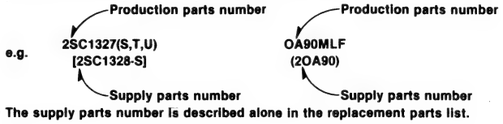


IC4 AN6870



NOTES:

- S1-1—S1-14.....Record/Playback select switch (shown in playback position).
- S2-1—S2-2 .....Dolby NR IN/OUT select switch (shown in out position).
- S3.....Auto tape select switch (shown in Normal position).
- S4.....Auto tape select switch.
  (1...Metal position, 2...Normal position, CrO_2 position)
- S5.....Muting switch.
- S6.....FF/Rewind muting switch.
- S7.....Power ON/OFF switch.
- S8.....AC power voltage select switch.
  * For all European areas except United Kingdom.
- VR1, 2 .....Playback gain adjustment VR.
- VR3, 4 .....Input level controls.
- VR5, 6 .....Overall gain adjustment VR.
- VR7 .....FL meter adjustment VR (for −20dB indication).
- VR8 .....FL meter adjustment VR (for 0dB indication).
- VR201, 202 .....Bias current adjustment VR.
- L1, 2 .....Bias leakage adjustment coil.
- Connection points (A) and (B).....For erase current adjustment.
- Resistance are in ohms (Ω), 1/4 watt unless specified otherwise.
  1K = 1,000Ω, M = 1,000KΩ.
- Capacity are micro farads (μF) unless specified otherwise.
  P = Pico-farads.
- The mark (▼) shows test point. e.g. ▽ = Test point 1.
- (⟹) this arrow indicates the flow of the playback signal.
- (➡) this arrow indicates the flow of the recording signal.
- All voltage values shown in circuitry are under no signal condition.
  Unless otherwise specified, voltage measurement conditions are that tape travel is at STOP, tape mode at NORMAL, and Dolby NR switch at OFF.
  Normal .....Voltage at normal tape mode
  Cue/review OFF.....Voltage at modes other than cue/review
  Stop .....Voltage at stop mode
  Playback.....Voltage at playback mode
  For measurent, use VTVM.
- Important safety notice
  Components identified by △ mark have special characteristics important for safety.
  When replacing any of these components, use only manufacturer's specified parts.
- Described in the schematic diagram are two types of number; the supply parts number and production parts number for transistors and diodes. One type of number is used for supply parts number and production parts number when they are identical.



- **The supply parts number is described alone in the replacement parts list.**

NOTES: RESISTORS
ERD ··· Carbon
ERG ··· Metal-oxide
ERS ··· Metal-oxide
ERO ··· Metal-film
ERX ··· Metal-film
ERQ ··· Fuse type metallic
ERC ··· Solid
ERF ···· Cement

CAPACITORS
ECBA ····· Ceramic
ECG□ ····· Ceramic
ECK□ ····· Ceramic
ECC□ ····· Ceramic
ECF□ ····· Ceramic
ECQM ····· Polyester film
ECQE····· Polyester film
ECQF ····· Polypropylene
ECE□ ····· Electrolytic
ECE□N ··· Non polar electrolytic
ECQS ····· Polystyrene
ECS□ ····· Tantalum
QCS ····· Tantalum

REPLACEMENT PARTS LIST

Important safety notice
Components identified by △ mark have special characteristics important for safety.
When replacing any of these components, use only manufacturer's specified parts.

Ref. No.	Part No.
RESISTORS	
R1, 2	ERD25TJ273
R3, 4	ERD25FJ103
R5, 6	ERD25FJ100
R7, 8	ERD25FJ181
R9, 10	ERD25FJ560
R11, 12	ERD25TJ104
R13, 14	ERD25FJ682
R15, 16	ERD25TJ104
R17, 18	ERD25FJ472
R19, 20	ERD25FJ821
R21, 22	ERD25TJ124
R23, 24	ERD25FJ472
R25, 26	ERD25TJ393
R27, 28	ERD25FJ472
R29, 30	ERD25FJ562
R31, 32	ERD25TJ104
R33, 34, 35, 36	ERD25FJ102
R37, 38	ERD25TJ105
R39, 40	ERD25FJ332
R41, 42	ERD25TJ474
R43, 44	ERD25FJ181
R45, 46	ERD25TJ473
R47, 48	ERD25FJ102
R49, 50	ERO25CKG2003
R51, 52	ERD25TJ274
R53, 54	ERD25FJ392
R55, 56	ERD25TJ684
R57, 58	ERD25FJ272
R59, 60	ERD25FJ681
R61, 62	ERD25FJ330
R63, 64	ERD25FJ470
R65, 66	ERD25FJ562
R67, 68	ERD25FJ272
R69, 70	ERD25FJ122
R71, 72	ERD25FJ681
R73, 74	ERD25TJ273
R75, 76	ERD25FJ220
R77, 78	ERO25CKG2702
R79, 80	ERD25FJ102
R81, 82	ERO25CKG1003
R87, 88	ERD25FJ102
R91, 92	ERD25FJ102
R93, 94	ERD25FJ151
R95, 96	ERD25TJ563
R97, 98	ERD25FJ272
R99, 100	ERD25FJ682
R101	ERD25FJ561
R102	ERG1ANJ221
R103	ERD25FJ222
R104	ERD25FJ103
R105	ERD25FJ222
R106, 107	ERD25TJ683
R108	ERD25FJ102
R109	ERD25FJ472
R110	ERD25TJ273
R201	ERD25FJ1R0
R202	ERG1ANJ101
R203, 204	ERD25FJ562
R205	ERD25FJ100
R206	ERD25FJ102
R207	ERD25FJ270
R208	ERD25FJ182
R209	ERD25FJ391
R210	ERD25FJ471
R211	ERD25FJ122
R212	ERD50FJ102
R213	ERD25FJ222
R214, 215	ERD25FJ103
R216	ERD25FJ682
R217	ERD25FJ222
R218	ERD25TJ333
R219	ERD25TJ224
R220	ERD25FJ222
R222	ERQ14AJ121P
R223	ERD25FJ272
R224	ERD25FJ102
R225	ERD25FJ562
R226	ERD25TJ333
R227	ERG1ANJ101
R228 △	ERD25FJ102
R230, 231, 232	ERD25FJ103
R233, 234	ERD25FJ332
R235	ERD25FJ124
R237, 238	ERD25FJ822
R239, 240	ERD25FJ681
R241, 242	ERD25FJ684
R243	ERD25FJ331
R244	ERD25FJ102
R245, 246	ERD25FJ684
R247	ERD25FJ332
R248	ERD25FJ103
R249	ERG1ANJ181
R250	ERD25FJ102
R251	ERD25FJ103
R252	ERG2ANJ121
R253	ERD25FJ102
VARIABLE RESISTORS	
VR1, 2	EVNM4AA00B24
VR3, 4	QVHCCAF20A24
VR5, 6	EVNM4AA00B24
VR7	EVTS3MA00B23
VR8	EVTS3MA00B14
VR201, 202	EVNM4AA00B54
CAPACITORS	
C1, 2	ECKD1H471KB
C3, 4	ECKD1H271KB
C5, 6	ECEA16M10R
C7, 8	ECKD1H102KB
C9, 10	ECEA1CS330
C11, 12	ECCD1H470J
C13, 14	ECEA1CS330
C15, 16	ECQV05273JZ
C17, 18	ECEA1HS100
C19, 20	ECQM1H123KZ
C21, 22	ECEA50MR33R
C23, 24	ECEA1AS221
C25, 26	ECQV05273JZ
C27, 28	ECQM1H562JZ
C29, 30	ECEA1HS100
C31, 32	ECQM1H472JZ
C33, 34	ECEA50ZR33
C35, 36	ECQV05104JZ
C37, 38	ECEA1HS100
C39, 40	ECEA25Z4R7
C41, 42	ECQM1H473KZ
C43, 44	ECEA25Z4R7
C45, 46	ECKD1H102KB
C47, 48	ECCD1H560J
C49, 50	ECQP1392JZ
C51, 52, 53, 54, 55, 56	ECEA50ZR68
C57, 58	ECEA1CS330
C59, 60	ECQM1H473KZ
C61, 62	ECQV05224JZ
C63, 64, 65, 66	ECQM1H393KZ
C67, 68	ECQM1H223KZ
C69, 70	ECKD1H152KB
C71, 72	ECEA50Z1
C73, 74	ECCD1H100J
C75, 76	ECEA1ES101
C77, 78	ECQP1471JZ
C79, 80	ECQM1H183KZ
C101, 102	ECEA1ES101
C103, 104	ECEA50Z1
C201, 202	ECKD1H181KB
C203	ECQF6332KZ
C204	ECQM1H153KZ
C205	ECEA1ES101
C206	ECQM1H222JZ
C207	ECKD1H103KF
C208	ECEA1JS220
C209	ECEA50Z2R2
C210	ECEA1VS221
C211	ECEA1CS331
C212 △	ECEA1ES101
C213 △	ECEA1VS102
C214 △	ECEA1CS102
C216, 217, 218, 219	ECCD1H560J
C221, 222	ECCD1H101K
C223, 224	ECEA25Z4R7
C225, 226	ECEA50Z1
C227	ECQM1H473KZ
C228	ECEA25Z4R7
C229	ECCD1H101K
C230	ECEA1HS100
C231	ECEA1ES221
C232	ECEA1ES470
C233	ECKD1H102KB
C234, 235	ECQV05104JZ
TRANSISTORS	
Q1, 2, 3, 4	2SC1328-S
Q5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18	2SC945-Q
Q19	2SA999E
Q21, 22	2SD592NCS
Q25	2SD592NCS
Q26, 27, 28, 29	2SC945-Q
Q30	2SA999E
Q31	2SD794P
Q32, 33, 34	2SC945-Q
Q35	2SD794P
DIODES	
D201, 202	MA161
D204	TLG205
D205	TLY205
D206, 207	TLR205
D208, 209, 210, 211	MA161
D212 △	RD20EB3
D213, 214, 215, 216 △	SM112
D305	MA161
D307	MV121
D308	MA161
D309	RD24EB1
D310	MV121
COMBINATION PARTS	
CR1, 2	EXRP102K472
CR3, 4	EXRP122K682
INTEGRATED CIRCUITS	
IC1, 2	NE646B
IC3	NJM4556
IC4	AN6870

Ref. No.	Part No.	Part Name & Description
TRANSFORMER		
T1 ⚿△	QLPD55EKE	Power Transformer
	*For all European areas except United Kingdom.	
⚿△	QLPD56EKE	〃
	*For United Kingdom.	
COILS		
L1, 2	QLQX1032W	Bias Trap Coil
L3, 4	QLQX2421Y	Peaking Coil
L5, 6	SLM1Z19	MPX Filter
L7	QLB0198K	Bias Oscillation Coil
SWITCHES		
S1	QSSE203	Slide Switch (Record/Playback Selector)
S2	QSW2232	Push Switch (Dolby IN/OUT)
S3	QSB0253M	Leaf Switch (Auto Tape Selector)
S4	AH32229	Micro Switch (Auto Tape Selector)
S5	QSB0251i	Leaf Switch (Rec-Mute ON/OFF)
S6	QSB0251i	Leaf Switch (Fast Forward/Rewind Muting)
S7 △	QSW1117AS	Push Switch (Power ON/OFF)
S8 ⚿△	QSR1409H	AC Power Voltage Select Switch
	*For all European areas except United Kingdom.	
FUSES		
F1, 2 △	XBAQ0008	Fuse (T630mA)
JACKS		
J1, 2	QJA0253	Microphone Jack
J3	QJA0249	Headphones Jack

CIRCUIT BOARDS

MAIN CIRCUIT BOARD

Q13, 14 2SC945(K,P) [2SC945-Q]

	CrO_2
B	0.66V
C	0V
E	0V

Q7, 8 2SC945(K,P) [2SC945-Q]

B	0.67V
C	0V
E	0V

Q9, 10 2SC945P [2SC945-Q]

B	2.8V
B	9.0V
E	2.2V

IC3 AN6552

1	9.6V
2	9.6V
3	9.6V
4	0V
5	9.6V
6	9.6V
7	9.6V
8	19.3V

Q17, 18 2SC945(P,K) [2SC945-Q]

	Cue/Review ON
B	0.72V
C	0V
E	0V

Q19 2SA999(E,F) [2SA999E]

	Cue/Review ON	Cue/Review OFF
B	13.1V	14.1V
C	13.7V	0V
E	13.7V	14.2V

Q28 2SC945(K,P) [2SC945-Q]

	Metal, CrO_2	Normal
B	0V	0.7V
C	0.66V	0V
E	0V	0V

Q11, 12 2SC945(K,P) [2SC945-Q]

	Normal
B	0.63V
C	0V
E	0V

Q26 2SC945(K,P) [2SC945-Q]

	Normal	CrO_2
B	0V	19.2V
C	19.2V	19.2V
E	0.1V	18.6V

Q27 2SC945(K,P) [2SC945-Q]

	Normal	CrO_2
B	0.7V	0V
C	0V	19.2V
E	0V	0V

Q31 2SD794 [2SD794P]

B	20V
C	26.3V
E	19.2V

Q25 2SD592NCS

	Normal	CrO_2	Metal
B	0.41V	0.35V	0.14V
C	4.9V	7.2V	13.0V
E	0.18V	0.26V	0.5V

Q15, 16 2SC945(K,P) [2SC945-Q]

	Metal
B	0.67V
C	0V
E	0V

Q21, 22 2SD592NCS

B	0.67V
C	0V
E	0V

Q5, 6 2SC945(K,P) [2SC945-Q]

	Metal, CrO_2
B	0.66V
C	0V
E	0V

Q3, 4 2SC1327(S,T,U) [2SC1328-S]

B	1.84V
C	5.2V
E	1.25V

Q1, 2 2SC1327(S,T,U) [2SC1328-S]

B	1.2V
C	1.84V
E	0.7V

Q29 2SC945(K,P) [2SC945-Q]

	STOP	PLAYBACK
B	0.6V	0.25V
C	0V	24V
E	0V	0V

Q30 2SA999(E,F) [2SA999E]

	STOP	PLAYBACK
B	2.3V	24V
C	2.95V	0.06V
E	3.0V	24V

IC1 NE646B

1	7.1V	9	0V
2	7.3V	10	7.2V
3	7.7V	11	7.2V
4	7.2V	12	7.1V
5	7.1V	13	7.2V
6	7.3V	14	7.2V
7	6.5V	15	7.0V
8	6.5V	16	14.2V

IC2 NE646B

1	7.2V	9	0V
2	7.4V	10	7.3V
3	7.9V	11	7.3V
4	7.3V	12	7.3V
5	7.3V	13	7.3V
6	7.4V	14	7.3V
7	6.7V	15	7.1V
8	6.7V	16	14.2V

Q32 2SC945K [2SC945-Q]

B	0V
C	1.57V
E	0V

FL METER CIRCUIT BOARD

LED CIRCUIT BOARD

INPUT LEVEL CONTROL CIRCUIT BOARD

NOTES:
- The circuit show
- The circuit show the back side of
- Values indicated electrical parts.
- All voltage value Unless otherwise tape mode at NO
  Normal .....
  Cue/review OFF.
  Stop .....
  Playback.....
  For measurent, u
- Described in the supply parts num One type of num parts number wh

e.g. 2SC132 [2SC1
- The supply parts

IC3
AN6552

1	9.6 V
2	9.6 V
3	9.6 V
4	0 V
5	9.6 V
6	9.6 V
7	9.6 V
8	19.3 V

Q17, 18
2SC945(P,K)
[2SC945-Q]

	Cue/Review ON
B	0.72 V
C	0 V
E	0 V

Q19
2SA999(E,F)
[2SA999E]

	Cue/Review ON	Cue/Review OFF
B	13.1 V	14.1 V
C	13.7 V	0 V
E	13.7 V	14.2 V

Q28
2SC945(K,P)
[2SC945-Q]

	Metal. CrO_2	Normal
B	0 V	0.7 V
C	0.66 V	0 V
E	0 V	0 V

MAIN CIRCUIT BOARD

Q21, 22
2SD592NCS

B	0.67 V
C	0 V
E	0 V

Q5, 6
2SC945(K,P)
[2SC945-Q]

	Metal. CrO_2
B	0.66 V
C	0 V
E	0 V

Q3, 4
2SC1327(S,T,U)
[2SC1328-S]

B	1.84 V
C	5.2 V
E	1.25 V

Q1, 2
2SC1327(S,T,U)
[2SC1328-S]

B	1.2 V
C	1.84 V
E	0.7 V

IC1
NE646B

1	7.1 V	9	0 V
2	7.3 V	10	7.2 V
3	7.7 V	11	7.2 V
4	7.2 V	12	7.1 V
5	7.1 V	13	7.2 V
6	7.3 V	14	7.2 V
7	6.5 V	15	7.0 V
8	6.5 V	16	14.2 V

IC2
NE646B

1	7.2 V	9	0 V
2	7.4 V	10	7.3 V
3	7.9 V	11	7.3 V
4	7.3 V	12	7.3 V
5	7.3 V	13	7.3 V
6	7.4 V	14	7.3 V
7	6.7 V	15	7.1 V
8	6.7 V	16	14.2 V

INPUT LEVEL CONTROL CIRCUIT BOARD

Q32
2SC945K
[2SC945-Q]

B	0 V
C	1.57 V
E	0 V

Q33
2SC945K
[2SC945-Q]

B	—
C	—
E	0 V

FL METER CIRCUIT BOARD

Q35
2SD794(P,Q)
[2SD794P]

B	22.0 V
C	27.6 V
E	22.4 V

Q34
2SC945K
[2SC945-Q]

B	—
C	—
E	0 V

TERMINATIONS BOTTOM VIEW

IC1, 2 — IC3

Q1—4 — Q5—19, 21—29, 30

Q31 — D201, 202, 208—212

D213—216 — D204—207

L1, 2 — L3, 4

L5, 6 — L7

NOTES:

- The circuit shown in ■ on the conductor is + B (bias) circuit.
- The circuit shown in on the conductor indicates printed circuit on the back side of the printed circuit board.
- Values indicated in ▭ are DC voltage between the grond and electrical parts.
- All voltage values shown in circuitry are under no signal condition.
  Unless otherwise specified, voltage measurement conditions are that tape travel is at STOP, tape mode at NORMAL, and Dolby NR switch at OFF.
  Normal .....Voltage at normal tape mode
  Cue/review OFF.....Voltage at modes other than cue/review
  Stop .....Voltage at stop mode
  Playback.....Voltage at playback mode
  For measurent, use VTVM.
- Described in the circuit board diagram are two types of numbers; the supply parts number and production parts number for transistors. One type of number is used for supply parts number and production parts number when they are identical.

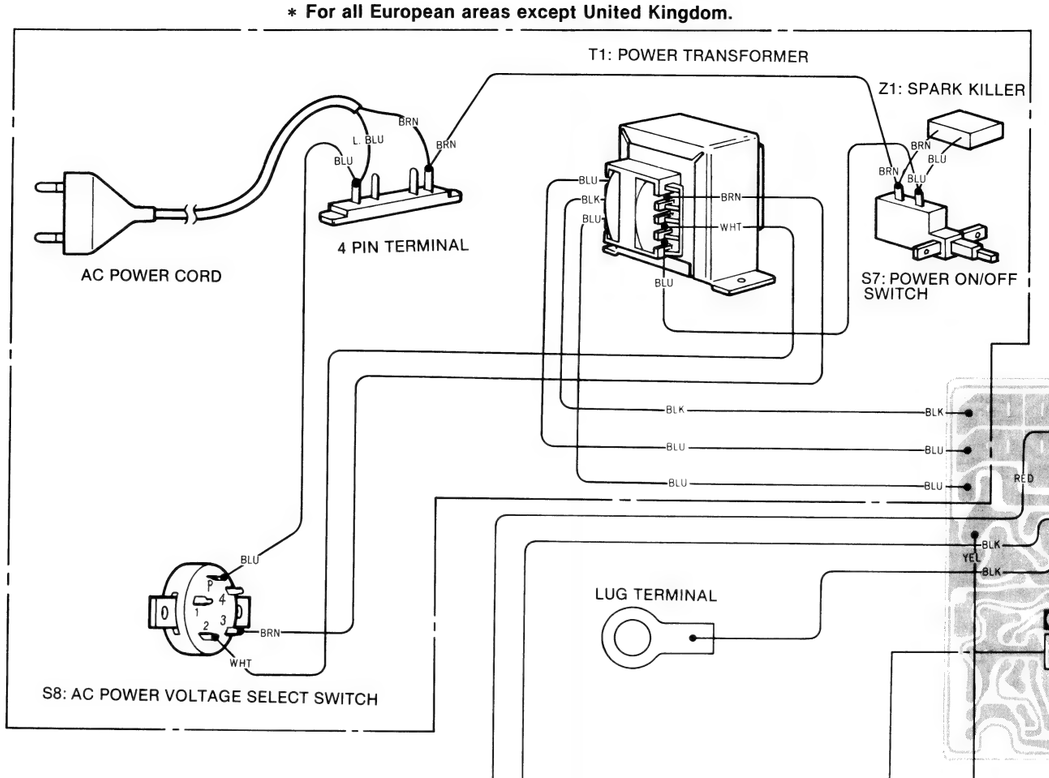
e.g. 2SC1327(S,T,U) [2SC1328-S] — Production parts number / Supply parts number
OA90MLF (2OA90) — Production parts number / Supply parts number

- **The supply parts number is described alone in the replacement parts list.**

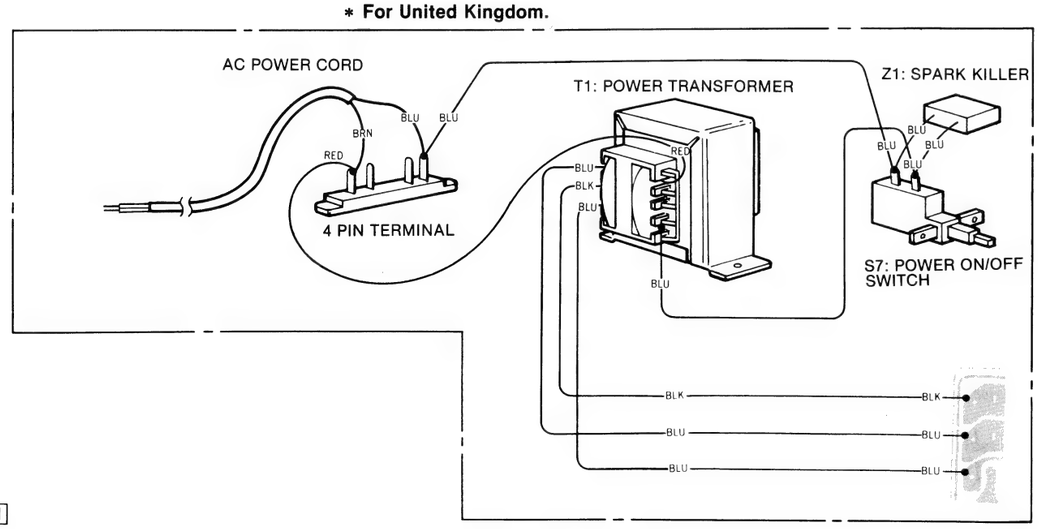
RS-M07

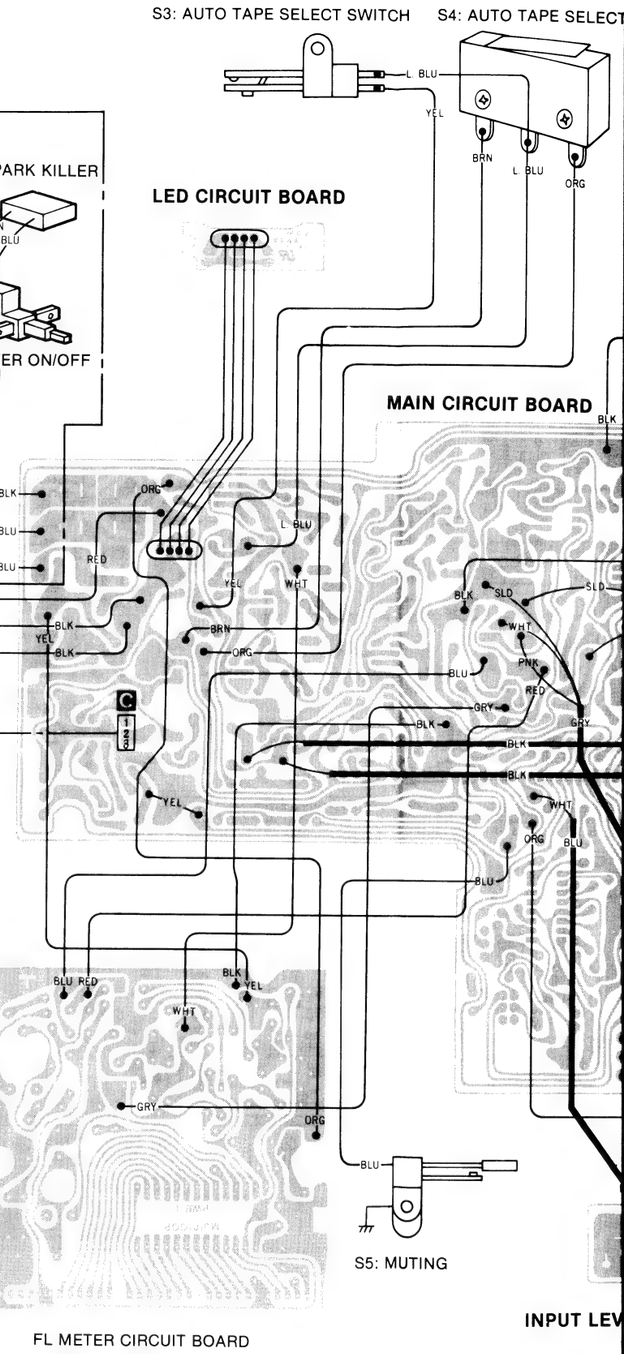
WIRING CONNECTION DIAGRAM

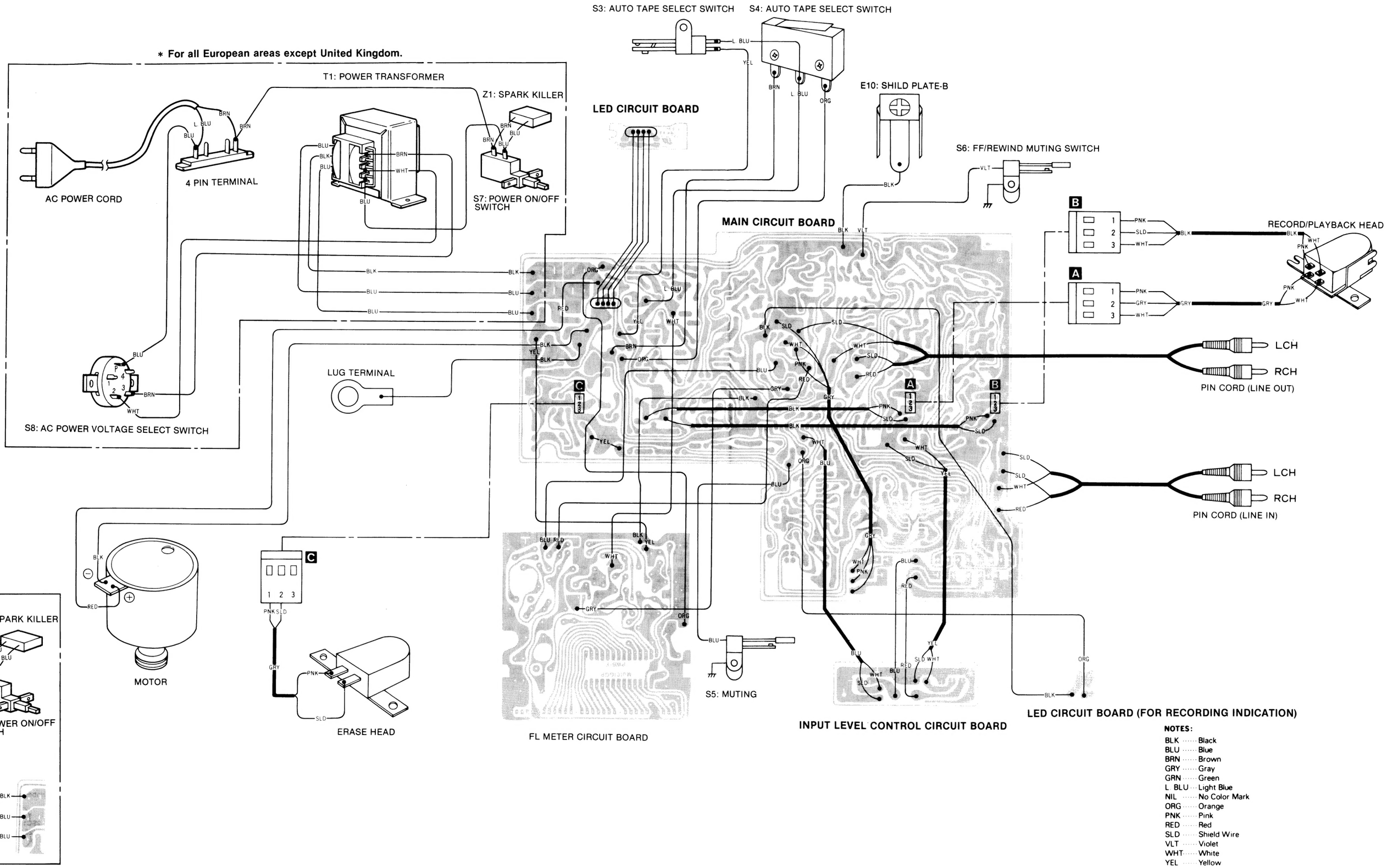
* For all European areas except United Kingdom.



* For United Kingdom.



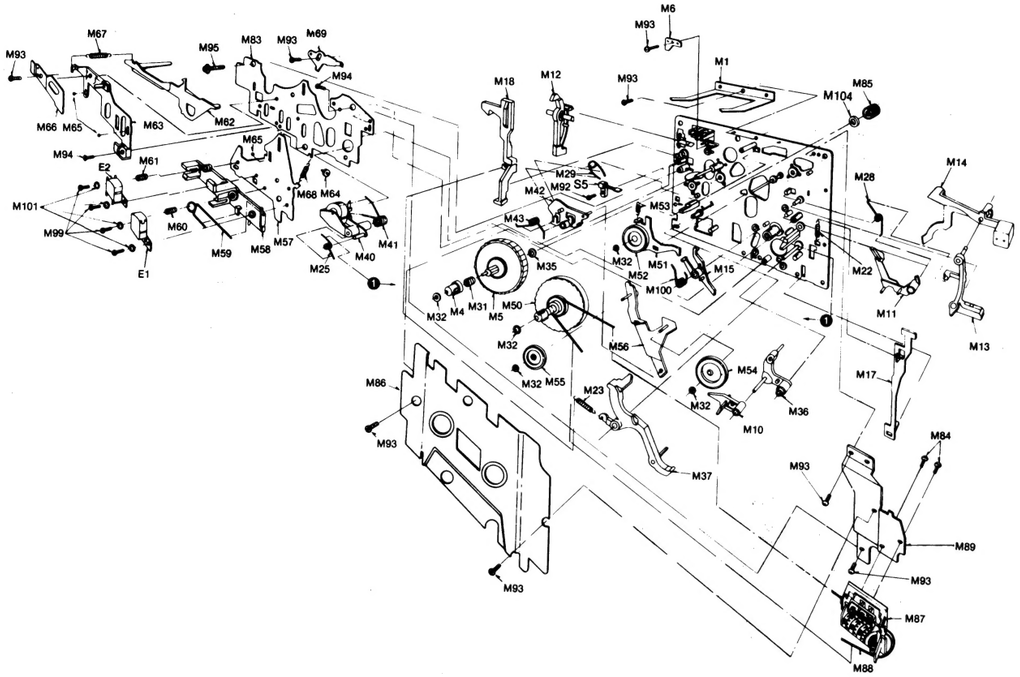


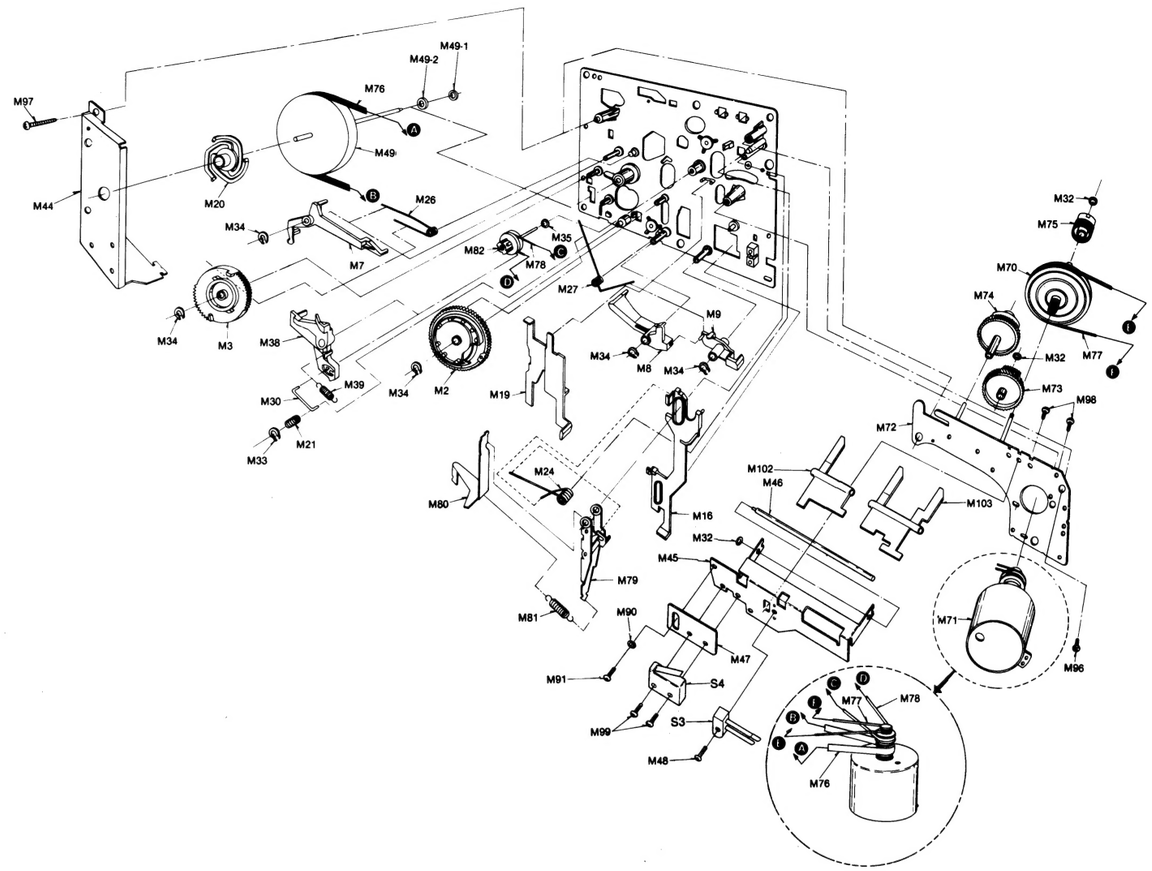


NOTES:

BLK ..... Black
BLU ..... Blue
BRN ..... Brown
GRY ..... Gray
GRN ..... Green
L BLU ... Light Blue
NIL ..... No Color Mark
ORG ..... Orange
PNK ..... Pink
RED ..... Red
SLD ..... Shield Wire
VLT ..... Violet
WHT ..... White
YEL ..... Yellow

MECHANISM PARTS LOCATION





REPLACEMENT PARTS LIST

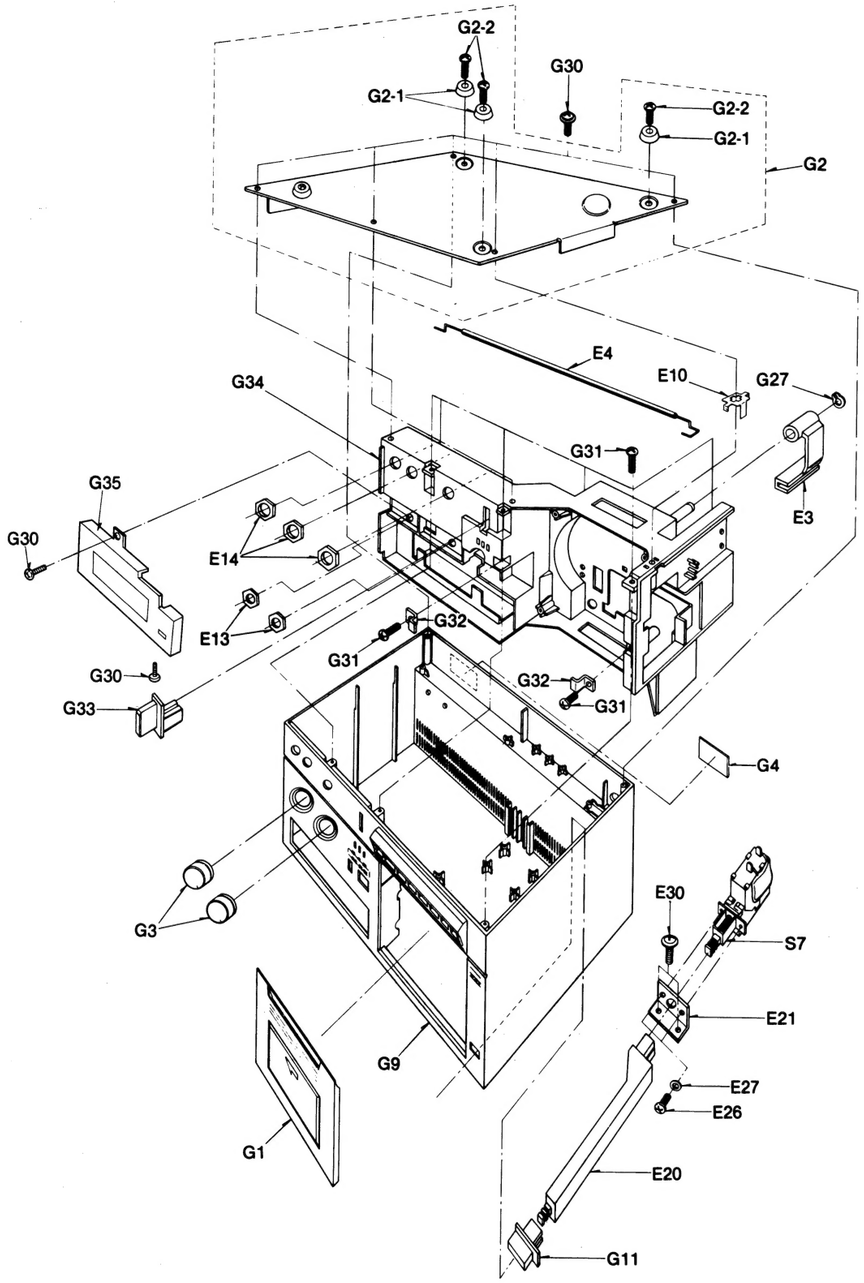
Ref. No.	Part No.	Part Name & Description
		MECHANICAL PARTS
M1	QBP1874	Cassette Pressure Spring
M2	QDG1201	Main Gear
M3	QDG1202	Sub Gear
M4	QMB1336	Supply Reel Table Hub
M5	QDR1139	Supply Reel Table
M6	QMF2118	Fast Forward Arm Bracket
M7	QML3581	Sub Control Lever
M8	QML3583	Main Control Lever
M9	QML3584	Record Operation Lever
M10	QML3586	Head Base Plate Lift Lever
M11	QML3594	Auto-Stop Release Arm
M12	QML3603	Erase Safety Lever
M13	QML3604	Auto-Stop Driving Lever
M14	QML3605	Auto-Stop Detection Lever
M15	QML3592	Change Lever
M16	QMR1820	Record Rod
M17	QMR1821	Auto-Stop Connection Rod
M18	QMR1822	Eject Rod
M19	QMR1824	Control Rod
M20	QMZ1239	Flywheel Thrust Retainer
M21	QBC1357	Lock Pin Pressure Spring
M22	QBT1682	Auto-Stop Connection Rod Spring
M23	QBT1894	Main Lever Spring
M24	QBN1739	Selection Lever Spring
M25	QBN1742	Pressure Roller Release Spring
M26	QBN1744	Sub Gear Spring
M27	QBN1802	Main Gear Spring
M28	QBN1746	Auto-Stop Lever Spring
M29	QBN1747	Connection Spring
M30	QBS1128	Lock Pin
M31	QBC1372	Reel Table Spring
M32	QBW2008	Poly Washer 2φ
M33	XUB4FT	Stop Ring 4φ
M34	XUB3FT	Stop Ring 3φ
M35	QBW2012	Poly Washer
M36	QXL1354	Sub Lever Assembly
M37	QXL1355	Main Lever Assembly
M38	QML3582	Pause Lock Lever
M39	QBT1896	Lever Release Spring
M40	QXL1381	Pressure Roller Assembly
M41	QBN1743	Pressure Roller Spring
M42	QML3588	Fast Forward Lever
M43	QBN1748	Fast Forward Spring
M44	QMA4063	Flywheel Retainer
M45	QMA3920	Detection Lever Angle
M46	QMS2546	Detection Lever Shaft
M47	QMF1682	Switch Retaining Plate
M48	XSN2+6	Screw ⊕2×6
M49	QXF0164	Flywheel Assembly
M49-1	QBW2049	Poly Washer
M49-2	QBW2026	Washer
M50	QXD1143	Takeup Reel Table Assembly
M51	QXL1382	Idler Lever Assembly
M52	QXi0111	Takeup Idler Assembly
M53	QBT1893	Takeup Idler Spring
M54	QXi0113	Fast Forward Idler Assembly
M55	QXi0112	Rewind Idler Assembly
M56	QXL1383	Fast Forward Arm Assembly
M57	QMK1840	Head Base Plate
M58	QMZ1241	Head Spacer
M59	QBN1740	Head Pressure Spring
M60	QBC1278	Head Spring (for Record/Playback Head)
M61	QBCA0008	Head Spring (for Erase Head)
M62	QML3591	Brake Arm
M63	QMZ1240	Sub Head Base Plate
M64	QMN2550	Roller
M65	QDK1017	Steel Ball 2φ
M66	QBP1873	Head Base Plate Pressure Spring
M67	QBT1597	Brake Arm Spring
M68	QBT1892	Head Release Spring
M69	QMA3858	Head Adjustment Plate
M70	QXG1047	Takeup Gear Assembly
M71	QXU0170	Motor Assembly
M72	QXK2286	Sub Chassis Assembly
M73	QDG1199	Auto-Stop Gear
M74	QDG1200	Cam Gear
M75	QDP1823	Connection Pulley
M76	QDB0281	Capstan Belt
M77	QDB0273	Fast Forward Belt
M78	QDB0274	Takeup Belt
M79	QXL1360	Record/Playback Selection Arm Assembly
M80	QML3580	Record/Playback Selection Lever
M81	QBT1895	Record/Playback Selection Lever Spring
M82	QXP0607	Fast Forward Connection Pulley Assembly
M83	QMK1838	Upper Base Plate
M84	XSN3+5S	Screw ⊕3×5
M85	QDP1828	Fast Forward Pulley
M86	QXH0357	Chassis Cover Assembly
M87	QXC0067	Tape Counter
M88	QDB0207	Counter Belt
M89	QMAM0130	Counter Angle
M90	XWC26B	Washer 2.6φ
M91	XSN26+6	Screw ⊕2.6×6
M92	XTN2+6B	Tapping Screw ⊕2×6
M93	XTN26+6B	Tapping Screw ⊕2.6×6
M94	XTN26+10B	Tapping Screw ⊕2.6×10
M95	XTN26+12B	Tapping Screw ⊕2.6×12
M96	XTN3+10B	Tapping Screw ⊕3×10
M97	XTN3+24B	Tapping Screw ⊕3×24
M98	XSN26+3	Screw ⊕2.6×3
M99	XSN2+10	Screw ⊕2×10
M100	QBN1741	Change Lever Spring
M101	XWG2	Washer 2φ
M102	QML3644	Tape Detection Lever-A (for Metal Tape)
M103	QML3645	Tape Detection Lever-B (for CrO2 Tape)
M104	QBW2085	Poly Washer

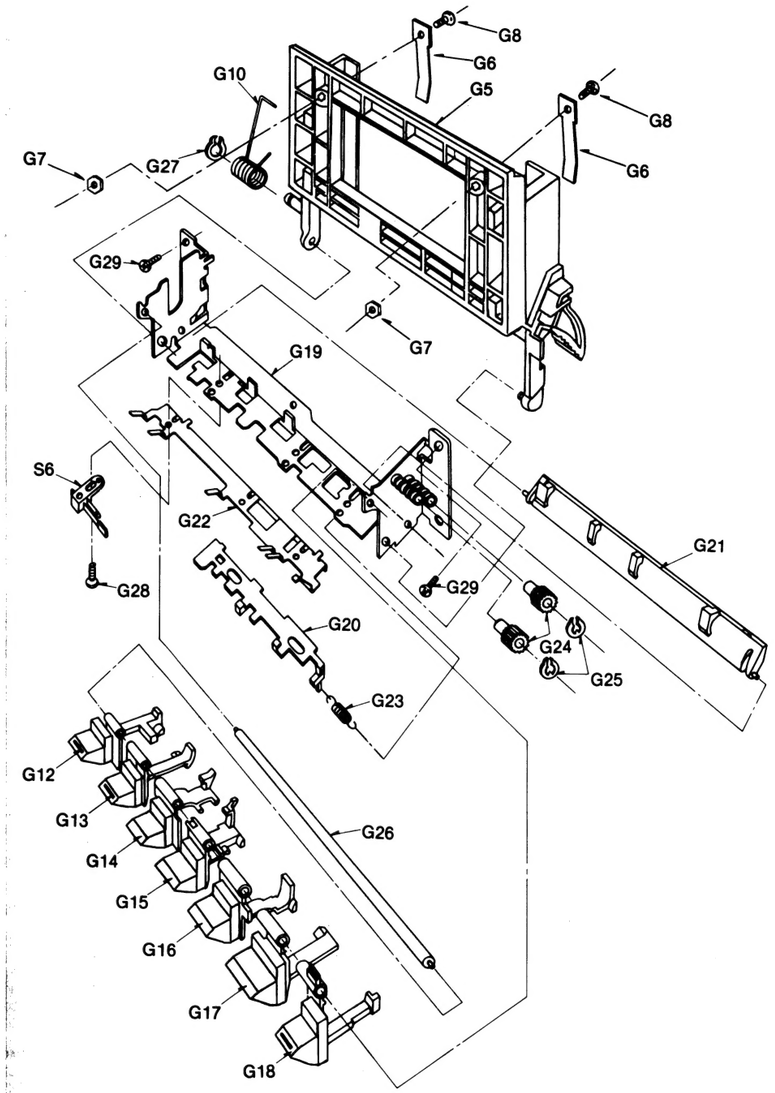
When servicing this mechanism unit, refer to the disassembly notes and assembly instructions described in the service manuals of RS-M51, RS-M13, RS-M14 and RS-M04 (RS-M24 mechanism series).

SPECIFICATIONS

Pressure of pressure roller	350±50g
Takeup tension * Use cassette torque meter ··· QZZSRKCT	45^{+15}_{-10} g·cm
Wow and flutter; (JIS) * Use test tape ··· QZZCWAT	Less than 0.06% (WRMS)

CABINET PARTS LOCATION





REPLACEMENT PARTS LIST

Ref. No.	Part No.	Part Name & Description
		CABINET PARTS
G1	QYFM0049	Cassette Lid Assembly
G2	QYCM0028	Bottom Cover
G2-1	QKA1083	Rubber Foot
G2-2	QHQ1299	Step Screw
G3	QYT0615	Input Level Control Knob Assembly
G4 [D]	QGSM0143	Main Name Plate
✱For all European areas except United Kingdom.		
[B]	QGSM0144	"
✱For United Kingdom.		
G5	QKFM6007K	Cassette Holder
G6	QBP1899	Holder Spring
G7	XNG2E	Nut 2ϕ
G8	XSN2+5	Screw ⊕2×5
G9 [D]	QYMM0079	Main Case Assembly
✱For all European areas except United Kingdom.		
[B]	QYMM0078	"
✱For United Kingdom.		
G10	QBN7008	Cassette Holder Spring
G11	QGOM0039	Power Button
G12	QXL1441	Eject Button Assembly
G13	QXL1442	Record Button Assembly
G14	QXL1443	Rewind/Review Button Assembly
G15	QXL1444	Fast Forward/Cue Button Assembly
G16	QXL1445	Playback Button Assembly
G17	QXL1446	Stop Button Assembly
G18	QXL1447	Pause Button Assembly
G19	QXA1044	Operation Button Angle Assembly
G20	QMR1823	Obstruction Rod
G21	QML3593	Lock Arm
G22	QBP1875	Obstruction Lever Spring
G23	QBT1597	Obstruction Rod Spring
G24	QDG1102	Holder Gear
G25	XUC4FT	Stop Ring 4ϕ
G26	QMN2554	Operation Lever Shaft
G27	XUB5FT	Stop Ring 5ϕ
G28	XTN2+6B	Tapping Screw ⊕2×6
G29	XTN26+6B	Tapping Screw ⊕2.6×6
G30	XTB3+10BFN	Tapping Screw ⊕3×10
G31	XTN3+12B	Tapping Screw ⊕3×12
G32	QMAM0129	Stopper
G33	QGOM0038	Switch Button (for Dolby NR)
G34	QKJM0065	Mechanism Angle
G35	QGKM0151	Meter Cover
		ACCESSORY
A1 [D]	QQT3040	Instruction Book
✱For all European areas except United Kingdom.		
[B]	QQT3041	"
✱For United Kingdom.		
		PACKINGS
P1	QPNM0161	Inside Carton
P2	QPAM0040	Cushion-R
P3	QPAM0041	Cushion-L
P4	QPG1983	Pad
P5	XZB40X50A02	Poly Bag

MNE Y.F DB Printed in Japan

ORDER NO. ARD81060052A2-01

Service Manual

Cassette Deck

RS-M07

(Black Face)

Metal Tape Compatible Stereo Cassette Deck with
Soft-Touch Controls and Auto-Tape Selector

* DOLBY SYSTEM

This is the Service Manual for the following areas.
D ..... For all European areas except United Kingdom.

RS-M24 MECHANISM SERIES

• Please use this manual together with the service manual for model No. RS-M07 (Silver,Face: order No. ARD-81040044C2-13).

PARTS COMPARISON TABLE:

Please revise the original parts list in the Service Manual RS-M07 (Silver Type) to conform to the changes shown herein.
If new part numbers are shown, be sure to use them when ordering parts.

Ref. No.	Parts Name	Part Numbers	
		Silver Type (Original)	**Black Type**
M86	Chassis Cover Assembly	QXH0357	**QXH0357K**
G1	Cassette Lid Assembly	QYFM0049	**QYFM0049K**
G9	Main Case Assembly	QYMM0079	**QYMM0083**
G35	Meter Cover	QGKM0151	**QGKM0151K**
A1	Instruction Book	QQT3040	**QQT3101**

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Technics

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